

## WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:

a compression unit which compresses image data;

a data amount calculation unit which obtains a

5 data amount of the image data compressed by said  
compression unit;

a determination unit which determines whether the  
data amount calculated by said data amount calculation  
unit exceeds a capacity of a memory;

10 a control unit which performs control to increase  
a compression ratio of said compression unit in  
accordance with a determination result obtained by said  
determination unit, make said compression unit compress  
the image data, and store the image data in the memory;

15 a counting unit which counts the number of times  
said determination unit determined that the data amount  
exceeded the capacity of the memory;

a holding unit which holds the counted number of  
times; and

20 a decoding unit which decodes the data stored in  
the memory on the basis of the number of times held by  
said holding unit.

2. The apparatus according to claim 1, wherein said  
compression unit comprises

25 an orthogonal transform unit which orthogonally  
transforms image data,

a quantization unit which quantizes coefficients

orthogonally transformed by said orthogonal transform unit in accordance with a quantization table,

a shift unit which shifts the coefficients quantized by said quantization unit to change the  
5 compression ratio, and

a coding unit which codes the coefficients shifted by said shift unit.

3. The apparatus according to claim 2, wherein said decoding unit performs decoding upon setting a  
10 quantization table corresponding to the held number of times.

4. An image processing method comprising the steps of:

compressing image data;  
15 obtaining a data amount of the image data compressed in the compression step;

determining whether the data amount calculated in the data amount obtaining step exceeds a capacity of a memory;

20 performing control to increase a compression ratio of the compression step in accordance with a determination result obtained in the determination step, compress the image data in the compression step, and store the image data in the memory;

25 counting the number of times determined in the determination step that the data amount exceeded the capacity of the memory;

holding the counted number of times; and  
decoding the data stored in the memory on the  
basis of the number of times held in holding step.

5. The method according to claim 4, wherein the  
5 compression step comprises the steps of  
orthogonally transforming image data,  
quantizing coefficients orthogonally transformed  
in the orthogonal transform step in accordance with a  
quantization table,  
10 shifting the coefficients quantized in the  
quantization step to change the compression ratio, and  
coding the coefficients shifted in the shift step.

6. The method according to claim 5, wherein in the  
decoding step, decoding is performed upon setting a  
15 quantization table corresponding to the held number of  
times.

7. An image processing apparatus comprising:  
a compression unit which compresses image data;  
a data amount calculation unit which obtains a  
20 data amount of the image data compressed by said  
compression unit;  
a determination unit which determines whether the  
data amount calculated by said data amount calculation  
unit exceeds a capacity of a memory;  
25 a control unit which performs control to increase  
a compression ratio of said compression unit in  
accordance with a determination result obtained by said

determination unit, make said compression unit compress the image data, and store the image data in the memory;

a counting unit which counts the number of times said determination unit determined that the data amount  
5 exceeded the capacity of the memory; and

a holding unit which holds the counted number of times to decode the data stored in the memory.

8. The apparatus according to claim 7, wherein said holding unit holds the number of times to determine a  
10 quantization table to be used to decode the data stored in the memory.

9. An image processing method comprising the steps of:

compressing image data;  
15 obtaining a data amount of the image data compressed in the compression step;

determining whether the data amount calculated in the data amount obtaining step exceeds a capacity of a memory;

20 performing control to increase a compression ratio of the compression step in accordance with a determination result obtained in the determination step, compress the image data in the compression step, and store the image data in the memory;

25 counting the number of times determined in the determination step that the data amount exceeded the capacity of the memory; and

holding the counted number of times to decode the data stored in the memory.

10. The method according to claim 9, wherein in the holding step, the number of times is held to determine  
5 a quantization table to be used to decode the data stored in the memory.

11. An image processing apparatus which, on a coding side for image data, obtains a data amount of compressed image data, determines whether the obtained  
10 data amount exceeds a capacity of a memory, increases a compression ratio in the compression in accordance with the determination, compresses the image data, and decodes the compressed image data stored in the memory, comprising:

15 a holding unit which holds the number of times it was determined that the data amount exceeded the capacity of the memory in coding operation on the coding side; and

a decoding unit which decodes the data stored in  
20 the memory in accordance with the number of times stored in said holding unit.

12. The apparatus according to claim 11, wherein said holding unit holds the number of times to determine a quantization table to be used to decode the data stored  
25 in the memory.

13. An image processing method which, on a coding side for image data, obtains a data amount of

compressed image data, determines whether the obtained data amount exceeds a capacity of a memory, increases a compression ratio in the compression in accordance with the determination, compresses the image data, and  
5 decodes the compressed image data stored in the memory, comprising:

a holding step of holding the number of times it was determined that the data amount exceeded the capacity of the memory in coding operation on the  
10 coding side; and

a decoding step of decoding the data stored in the memory in accordance with the number of times stored in the holding step.

14. The method according to claim 13, wherein in the  
15 holding step, the number of times is held to determine a quantization table to be used to decode the data stored in the memory.